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Attorney Docket No. WSP199US
U.S. Patent Application No. 09/869,183
Date: November 22, 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andrea Born et al.

U.S. Patent Application No. 09/869,183

For: FORMING OR COATING MATERIAL AND UTILIZATION THEREOF

Filed: August 28, 2001

Examiner: Rajguru, Umakant K.

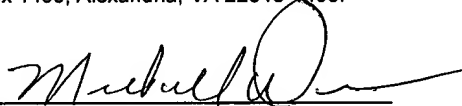
Group Art Unit: 1711

Confirmation No.: 9793

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Michael L. Dunn
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APPEAL BRIEF
(37 CFR 1.192)

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Honorable Sir:

Applicants respectfully appeal the decision of the Examiner finally rejecting Claims 14 and 16-44 as set forth in the Office Action dated April 29, 2004 and Advisory Action of October 14, 2004. A Notice of Appeal was timely filed by the Applicants on September 27, 2004.

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Real Parties in Interest

The real party in interest is ISPO GMBH, Assignee of the above application by assignment recorded in the Patent and Trademark Office at Reel 012165, Frame 0974

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

The application originally contained 13 claims. Claims 14-44 have been added by amendment. Claims 1-13 and 15 have been cancelled. Claim 14 has been amended. Claims 14 and 16-44 are pending on Appeal.

Status of Amendments

Claim 14 has been amended. No amendments have been offered which have not been entered.

Summary of the Invention

The invention is a material and a method coating with the material where the material includes a dispersion of between 0.2 and 20% of a first hydrophobic binding agent by weight of solids selected from resin, resin precursor, wax and mixtures thereof; at least one additional curing binding agent in an amount of between 0.5 and 40% by weight of solids; and a filler wherein the filler has an at least bimodal particle size distribution, wherein one particle size range (A) has a mean particle diameter of at least 5 μ m and the other particle size range (B) has a mean particle diameter of at most 3 μ m and the weight ratio of the particle size range (A) to the particles of the particle size range (B) is between 0.01:1 and 12:1. The dispersion contains

insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°.

Issues Presented for Review

1. Whether claims 14 and 16-34 and 36-44 are patentable under 35 USC 103(a) over Letoffe et al. (U.S. Patent 4,532,315); and
2. Whether claim 35 is patentable under 35 USC 103(a) over Letoffe et al. (U.S. Patent 4,532,315) in view of Hayashi et al. (U.S. Patent 5,328,941) or Takahashi et al. (U.S. Patent 6,239,246).

Grouping of Claims

The claims do not stand or fall together. The subclaims further restrict the independent claims to particular species thus providing further argument against the 35 U.S.C. 103 rejections. Furthermore, the specific embodiments in the subclaims are not described or suggested in the cited art, e.g. specific water absorptions, specific particle size ranges and ratios; and specific resin compositions. Additionally, all claims are not subject to the same rejections, i.e. Claim 35 is subject to a different rejection than the other claims and subclaim 44 has been indicated by the Examiner as containing allowable subject matter.

Argument

In the last official action, the Examiner rejected claims 14 and 16-34 and 36-44 under 35 USC 103(a) over Letoffe et al. (U.S. Patent 4,532,315).

In review of the current status of all claims, it should be appreciated that the current claims for the material and its use require:

- a) **a first hydrophobic binding agent;**

- b) **an additional binding agent;**
- c) one filler particle size range having a mean particle diameter of at least 5 μ m;
- d) another filler particle size range having a mean particle diameter of at most 3 μ m; and
- e) **insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°. Of paramount importance is the fact that the cured composition has a contact angle greater than 130°.**

The Examiner has rejected claims 14 and 16-34 and 36-44 as being unpatentable over Letoffe et al. This rejection is improper and should be withdrawn. It should be pointed out that **all pending claims require the property of having a contact angle in excess of 130°.** Letoffe et al discloses or suggests nothing concerning any composition having a contact angle greater than 130° and discloses or suggests no composition inherently having such a property. (A rejection based upon inherency should usually be a 35 U.S.C. 102 rejection in any case. Inherency generally does not apply to 35 U.S.C. 103 rejections and certainly not in this particular case.)

Letoffe et al. does not disclose or suggest any composition having at least two binding agents, and critically does not disclose or suggest any composition having insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°.

The Examiner, in the last advisory action said "Applicant's argument based on limitation of 'contact angle of greater than 130°' is also not persuasive since none of the instant claims encompasses this limitation. **The Examiner is completely in error.** All claims clearly require a contact angle in excess of 130° !!! It is not understood how the Examiner has overlooked a critical limitation present in all claims, especially since it has been repeatedly called to his attention.

The Letoffe et al compositions would not be at all expected to form coatings having a contact angle greater than 130° because the only binding agent used by Letoffe et al. apparently does not provide anywhere near such a contact angle. The Examiner's attention

was called to the background art articles, "Low Surface Energy Polysiloxane Complexes", Thünemann et al., Journal of Material Chemistry, 11, 381-384, (2001) and "Journal of Applied Polymer Science" Chapter 7, v.67, 2223 (1988), both of which show that the contact angles of polysiloxane films, similar to those of Letoffe et al., are much less than 130°, i.e. 98° in Thünemann et al. and 103° in the "Journal of Applied Science" article. These numbers are remarkably consistent thus rendering it highly unlikely that any composition of Letoffe et al. would have a contact angle anywhere near that required by the present claims.

Furthermore, the present claims require at least two binding agents. Letoffe et al. suggests only one. In the last advisory action the Examiner stated "The applicants' argument that 'Letoffe, the primary reference, does not disclose any composition having at two binding agents' is not persuasive with respect to instant claim 1 [sic 14], because Letoffe discloses compositions containing two binding agents viz. (i) polyhydroxylated polysiloxane and (ii) polyacyloxysilane (as cross-linking agent)." **The Examiner is again completely in error.** One resin cross-linked by another is a "single" molecular structure and results in another single resin. **Two different binding resins are thus clearly not suggested in Letoffe et al. !!!**

The present claims require insufficient hydrophilic components to prevent the 130° contact angle. Since the only binding agent in Letoffe et al. does not provide such a contact angle and there is no suggestion in Letoffe et al. of any other binding agent or component that could possibly make up for the inadequacy of the Letoffe et al. polysiloxane, it is clear that the presently claimed composition or its use cannot be disclosed or suggested by Letoffe et al.

The rejection is clearly improper and should be reversed.

Claim 35 has been rejected under 35 USC 103(a) over Letoffe et al. (U.S. Patent 4,532,315) in view of Hayashi et al. (U.S. Patent 5,328,941) or Takahashi et al. (U.S. Patent 6,239,246).

Neither Hayashi et al nor Takahashi et al. cure the critical defects of Letoffe et al., previously discussed. The additional additives of Hayashi et al or Takahashi et al. hardly could overcome the low contact angle material use by Letoffe et al.

The rejection is clearly improper and should be reversed.

In the final rejection, the Examiner states “additionally instant claims fail to include additional ingredients, which may be hydrophilic in nature.” This statement again demonstrates that the Examiner has failed to understand the present invention. Hydrophilic ingredients are severely restricted, i.e. **“insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°.”** The cited art simply does not disclose or suggest such a composition or its entirely unobvious use for self cleaning surfaces.

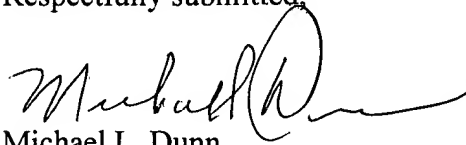
In summary, none of the references cited by the Examiner in any of the rejections or any possible combination suggest the presently claimed composition or its use where the composition includes:

- a) **a first hydrophobic binding agent;**
- b) **an additional binding agent;**
- c) one filler particle size range having a mean particle diameter of at least 5 μ m;
- d) another filler particle size range having a mean particle diameter of at most 3 μ m; and
- e) **insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°.** Of paramount importance is the fact that the cured composition has a contact angle greater than 130°.

Conclusion

In view of the foregoing, it is clear that the pending claims are patentable over the cited prior art. Reversal of the Examiner and allowance of all claims are therefore respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael L. Dunn", with a large, stylized loop at the end.

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Dated: November 22, 2004

Appendix

Reprinted below are the claims on appeal:

14. A material comprising a dispersion of between 0.2 and 20% of a first hydrophobic binding agent by weight of solids selected from the group consisting of resin, resin precursor, wax and mixtures thereof; of between 0.5 and 40% by weight of solids of at least one additional curing binding agent; and a filler wherein the filler has an at least bimodal particle size distribution, wherein one particle size range (A) has a mean particle diameter of at least 5 μ m and the other particle size range (B) has a mean particle diameter of at most 3 μ m and the weight ratio of the particle size range (A) to the particles of the particle size range (B) is between 0.01:1 and 12:1; said dispersion containing insufficient hydrophilic components so that the static initial water contact angle of a coating formed from the dispersion after 3 minutes equilibrium is greater than 130°.
16. A material as set forth in claim 14 wherein it has a maximum water absorption of less than 10% by weight.
17. A material as set forth in claim 14 wherein it has a maximum water absorption of less than 5% by weight.
18. A material as set forth in claim 14 wherein it has a maximum water absorption of less than 2% by weight.
19. A material as set forth in claim 14 wherein the particles of particle size range (A) have a mean diameter in the range of between about 5 and about 100 μ m.

20. A material as set forth in claim 14 wherein the particles of particle size range (A) have a mean diameter in the range of between about 8 and about 60 μm .
21. A material as set forth in claim 14 wherein the particles of particle size range (A) have a mean diameter in the range of between about 10 and about 40 μm .
22. A material as set forth in claim 19 wherein the particles of particle size range (B) have a mean particle diameter of at most 1 μm .
23. A material as set forth in claim 20 wherein the particles of particle size range (B) have a mean particle diameter of at most 1 μm .
24. A material as set forth in claim 19 wherein the particles of particle size range (B) have a mean particle diameter of from between 0.1 and 0.8 μm .
25. A material as set forth in claim 14 wherein the weight ratio of the particles of particle size range (A) to the particles of particle size range (B) is between 0.3:1 and 10:1.
26. A material as set forth in claim 17 wherein the weight ratio of the particles of particle size range (A) to the particles of particle size range (B) is between 0.3:1 and 10:1.
27. A material as set forth in claim 21 wherein the weight ratio of the particles of particle size range (A) to the particles of particle size range (B) is between 0.3:1 and 10:1.
28. A material as set forth in claim 14 wherein the weight ratio of the particles of particle size range (A) to the particles of particle size range (B) is between 0.3:1 and 10:1; preferably in the range of between 1.0:1 and 2.5:1.
29. A material as set forth in claim 14 wherein the binding agent contains between about 1.5 and about 30 percent of additional curing binding agent by weight of solids.

30. A material as set forth in claim 14 wherein the binding agent contains between about 1 and about 15 percent of silicone resin by weight of solids in the coating substance.
31. A material as set forth in claim 17 wherein the binding agent contains between about 1 and about 15 percent of silicone resin by weight of solids in the coating substance.
32. A material as set forth in claim 20 wherein the binding agent contains between about 1 and about 15 percent of silicone resin by weight of solids in the coating substance.
33. A material as set forth in claim 14 wherein the filler contained therein contains at least two different inorganic substances of which one forms the particles of the particle size range (A) and the other forms the particles of the particle size range (B).
34. A molding or coating material as set forth in claim 33 wherein the particles of the particle size range (A) comprise cristobalite and the particles of the particle size range (B) comprise titanium dioxide.
35. A material as set forth in claim 14 wherein it contains an additive selected from the group consisting of thickeners, wetting agents, organic fiber material, inorganic fiber materials, anti-foaming agent and mixtures thereof.
36. A method for coating a surface comprising applying the material of claim 14 to the surface.
37. A method for coating a surface comprising applying the material of claim 15 to the surface.
38. A method for coating a surface comprising applying the material of claim 16 to the surface.

39. A method for coating a surface comprising applying the material of claim 17 to the surface.
40. A method for coating a surface comprising applying the material of claim 20 to the surface.
41. A method for coating a surface comprising applying the material of claim 29 to the surface.
42. A method for coating a surface comprising applying the material of claim 33 to the surface.
43. A method for coating a surface comprising applying the material of claim 34 to the surface.
44. The material of claim 14 where the curing binding agent is selected from the group consisting of alkyd resins, polyvinyl chloride, chlorine rubber, polyurethanes, and epoxy resins.

TRANSMITTAL OF APPEAL BRIEF (Large Entity)Docket No.
WSP199USIn Re Application Of: **Andrea Born et al.**

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Examiner

Umakant K. Rajguru

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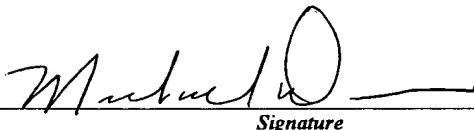
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Invention: **FORMING OR COATING MATERIAL AND UTILIZATION THEREOF**COMMISSIONER FOR PATENTS:

Transmitted herewith in triplicate is the Appeal Brief in this application, with respect to the Notice of Appeal filed on

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- ☒ A check in the amount of the fee is enclosed.
- ☐ The Director has already been authorized to charge fees in this application to a Deposit Account.
- ☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-0822
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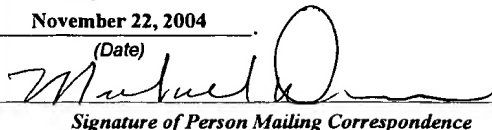
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Signature of Person Mailing Correspondence**Michael L. Dunn**

Typed or Printed Name of Person Mailing Correspondence

CC: